
# Brief Descriptions of Catalog Items

# Transportation System and Investments (TSI)

*This document provides brief descriptions of the policy options contained in the corresponding TSI Catalog of Policy Actions for use by the Transportation System and Investment Technical Work Group (TWG). The catalog and these brief descriptions will be developed more fully during the climate planning process.*

## TSI-1. BIKE AND PEDESTRIAN INCENTIVES

### TSI 1.0 (TSM 1.1, TII 1.4, TII 1.14, TII 1.15 TSM 1.4, TSM 1.5)

**Bike and Pedestrian Programs**

TSM 1.1 Bike Share Programs. Promote bike share opportunities by creating a bike share and partner with local business to expand bike share program throughout the local jurisdiction. Advertise bike sharing programs throughout the area to encourage participation. This also includes promoting bike routes and bike sharing programs through online software programs that can be accessed by local jurisdictions, employers and public agencies.

TII 1.4 Promote pedestrian traffic through information dissemination. Create flyers about the health benefits of walking.

TSM 1.4 Promote transportation alternatives by third parties such as BikeStation, green bike programs, bike rentals, and pedicabs. Distribute information regarding available options.

TII 1.14 Create Signature Bike Projects/Programs. Work with the city's Bike Ambassador and Mobility Coordinator to create signature bike projects/programs.

TII 1.15 Facilitate Increased Biking Opportunities. Offer bike friendly public facilities, transit, and shops through special route maps, increase bike rental locations and promote bike paths that circulate through popular tourist attractions and provide connections to local cycling groups.

TSM 1.5 Subsidize Bicycles. Provide manufacturers, wholesalers, retailers, or customers financial incentives such as tax breaks, rebates, and grants to encourage bicycle use.

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**TSI 1.1 (TSM 1.3, TDM 1.4, TDM 1.10, TDM-1.11, TII 1.1, TII 1.5, TII 1.6, TII 1.10, TII 1.11, TII 1.13, TII 1.16, TII 1.17, TII 1.20, TII 1.22, TII 1.23, TII 1.30, TII 1.32)**

**Increase Bike/Walk Trips with Improved Streets**

TSM 1.3 Increase Bike/Walk Trips with improved streets and facilities. Increase the number of trips taken by walking or cycling by making streets more accessible and safe for cyclists and pedestrians; this can be accomplished by adding bike lanes and sidewalks. Offer bike friendly public facilities, transit, and shops through special route maps, increase bike rental locations and promote bike paths that circulate through popular tourist attractions and provide connections to local cycling groups. Ensure direct access to destinations and continuity through connected facilities, which will encourage the use of bicycle and pedestrian facilities.

TDM 1.4 Promote Cleaner Modes of Transport with Additional Way-Finding Signs and Maps. Promote cleaner modes of transport with additional way-finding signs and maps. Maps and arrows can be included on bike and walk trials. Additional information can be disseminated at information stations for bike and walk trials.

TDM 1.10 Dedicated Bicycle/Pedestrian Lanes. Dedicated lanes will reduce the risk of collisions with motorists and enhance the overall experience for bicyclists and pedestrians.

TDM 1.11 Safe Road Crossings. Provide appropriate signage and visibility at busy road crossings.

TII-1.1 Bike and Pedestrian Infrastructure. Improve, construct, and promote sidewalks and bikeways to increase pedestrian and bicycle travel and reduce automobile use. Providing new sidewalks and improving existing sidewalks can shorten pedestrian and bicycle trips. Bicycle lanes can be provided both on shared streets and on segregated facilities physically separated from roadways, except at crossings.

TII 1.5 Sidewalk Construction. Construct sidewalks citywide where they are currently missing (infill sidewalks).

TII 1.6 Trail Improvement Projects. Make safety and convenience improvements for Trails to encourage walking and cycling.

TII 1.10 Construct Bike Lanes. Construct additional bike lanes on major streets. This provides increased safety for cyclist by moving them away from vehicle traffic.

TII 1.11 Construct Regional Bikeways. Construct regional bikeways with an emphasis on connectivity and safety.

TII 1.13 Upgrade Bike Transportation System. Create a safe, connected, and easy to navigate bike transportation system (routes, signage, parking, education).

TII 1.16 Traffic Calming Measures.Incorporate traffic calming measures to make streets more inviting and keep pedestrians and bicyclists safe. Implement walking infrastructure that creates neighborhood identity and promotes safe passages.

TII 1.17 Adopt and Implement Complete Streets Policy.Adopt and implement “complete streets” policy to facilitate all modes of travel (public transit, cars, bicyclists, pedestrians) as safely as possible on

existing and new streets. This action will help improve pedestrian infrastructure, such as ensuring that sidewalks are continuous and complete, and improving the Americans with Disabilities Act (ADA) access at intersections.

TII 1.20 Grade-separated Crossings. Construct grade-separated crossings to ensure safe and continuous pedestrian/bicycle pathways.

TII 1.22 Continuous Separated Sidewalks. Construct continuous sidewalk networks that are visually and physically distinct from nearby roads.

TII 1.23 Bike/Walk Paths to Parks. Lower the number of people who drive to parks by providing paths.

TII 1.30 Bicycle and Pedestrian Trails. Construct multi-use trails to facilitate off-street bicycle and pedestrian travel. Provide bicycle racks along trails.

TII 1.32 Bike Sensor for Traffic Counting. Encourage installing bike sensors for traffic counting on main roads.

**TSI 1.2 (TDM 1.8, TDM 1.9, TII 1.2, TII 1.7, TII 1.8, TII 1.21)**

**Development Standards, Codes and Zoning for Bicycles and Pedestrians**

TDM 1.8 Develop and promote guidelines for improved bicycle transit infrastructure. This may include expansion and improvement of bike trails, improved access to other modes of transit, more places to park bicycles, and bicycle safety training.

TDM 1.9 Amend Code to Accommodate Bikes and Pedestrians. Amend local codes in order to facilitate the infrastructure needed for substantial bicycle and pedestrian traffic. Examples include dedicated lanes and bicycle racks.

TII 1.2 Walkable and Bike Policy. Create and implement a regional walkable and bike policy. Promote walkways and biking lanes as well as road-trail connectivity through information dissemination.

TII 1.7 City Bicycle Plan Amendments. Amend the city bicycle plan regularly to continually improve bicycle transportation.

TII 1.8 Bicycle Priority Zone.Construct the planned Depot Bike Station and bicycle priority zone if grant is received.

TII 1.21 Pedestrian Only Streets/Plazas. Construct pedestrian only streets/plazas or re-designate existing roads. May be coupled with and/or encourage commercial development.

**TSI 1.3 (TII 1.3, TII 1.12, TII 1.18, TII 1.19, TII 1.31)**

**Bike and Pedestrian Connectivity**

TII 1.3 Increase Road-Trail Connectivity to promote biking and walking.

TII 1.12 Create connections between transit and biking systems including placing bike racks on local and regional buses, and include bike parking at key bus stops.

TII 1.18 Ensure that pathways are continuous and accessible.

TII 1.19 Incorporate pedestrian only or pedestrian dominant connectors in urban development.

TII 1.31 Maximize neighborhood connectivity to transit stations with walk and bike paths and local transit service.

**TSI 1.4 (TII 1.24, TII 1.25, TII 1.26, TII 1.27, TII 1.28, TII 1.29, TSM 1.2, TSM 1.5, TDM 1.7, TII 1.9)**

**Bicycle Facilities and Bicycle Parking**

TII 1.24 Install secure indoor bicycle parking facilities and/or outdoor short term bicycle racks.

TII 1.25 Bicycle Parking. Provide convenient and secure bicycle parking throughout urban areas and at both public and private locations.

TII 1.26 Street Standards for Bicycle Parking. Include provisions for bicycle parking within the public right of way.

TII 1.27 Bicycle Facilities in New Development. Incorporate appropriate bicycle facilities in new development plans.

TII 1.28 Weather Protected Bicycle Parking. Construct weatherproof bicycle facilities or covered parking near building entrances.

TII 1.29 Changing Rooms, Lockers and Showers. Providing changing rooms, lockers and showers at centers of employment will encourage employees to ride their bicycles to work.

TSM 1.2 Promote Bicycle Valets and Safe Bicycle Parking. Encourage bicycle valet options at large attendances events or high-density commercial areas to make it easier for cyclists to park their bicycles. Provide safe bicycle parking options at transit stations, office parks, central business districts, and other areas frequented by cyclists. Convenient and secure bicycle valet service at major events.

TDM 1.7 Bike Lockers and Other Secure Bike Storage. Many County facilities provide bike lockers, which range from caged areas that are electronically-controlled or box-type lockers. In general, new County building projects include areas for bike lockers.

TII 1.9 Increase Number of Bike Racks. Add more bicycle racks citywide at sites identified by a Bicycle Advisory Group.

## TSI-2. ROAD TRAFFIC MANAGEMENT

**TSI 2.0 (TSM 2.1, TII 4.12, TII 4.13, TII 4.25)**

**Speed Limit Measures**

TSM 2.1 Lower and Enforce Speed Limits. Smoother flowing traffic improves fuel efficiency. Speeding vehicles do not operate at fuel-efficient conditions and contribute significantly to accidents, which clog transportation systems and can cause significant congestion and idling.

TII 4.12 Implement Automated Speed Enforcement. Implement automated speed enforcement to increase on-road safety. Automated Speed Enforcement systems can be an effective tool for managing speed and reducing speed related crashes.

TII 4.13 Install Ramp Meters. Install ramp meters that regulate the flow of traffic entering freeways according to current traffic conditions. Ramp meters are claimed to reduce congestion (increase speed and volume) on freeways by reducing demand and by breaking up platoons of cars.

TII 4.25 Variable Speed on Freeways. Initial results suggested savings in journey times, smoother-flowing traffic, as well as a fall in the number of crashes.

**TSI 2.1 (TSM 2.2, TII 4.4)**

**Traffic Calming Measures**

TSM 2.2 Develop Traffic Calming Systems Continue to redesign intersections to increase pedestrian safety and amenity, including the provision of crosswalks, bulb-outs, and pedestrian refuges. Favor traffic-calming devices that make use of increased planted areas, such as residential traffic circles, neck-downs, etc. Incorporate traffic calming techniques (e.g., intersections with bulb-outs to lower traffic speed yet maintain traffic flow throughput) into the community planning stages of municipal projects

TII 4.4 Traffic Calming. Traffic-calming measures, such as roundabouts, speed bumps, and chokers, result in traffic moving at slower speeds and with smoother flow (e.g., roundabouts reduce full stops at intersections).

**TSI 2.2 (TSM 2.5, TII 4.16)**

**Arterial Traffic Management**

TSM 2.5 Arterial Traffic Management. Modify arterial roadways to encourage more efficient bus operation. Examples include dedicated bus lanes and signal preemption.

TII 4.16 Arterial Improvements. In all parts of the region, operational and technological improvements have the potential to maximize system productivity in a more cost-effective way than simply adding capacity. Such strategic “smart street” improvements include spot widening, signal prioritization, driveway consolidation and relocation, and grade separations at high-volume intersections.

**TSI 2.3 (TSM 2.6, TSM 2.8, TSM 2.9, TSM 2.10, TSM 2.11 TII 4.18, TDM 2.12, TSM 2.7)**

**Intelligent Transportation Systems**

TSM 2.6 Use Intelligent Transportation Systems to Share Information with Drivers. Use ITS to share information with drivers about road conditions and closures. ITS is used to add information and communications technology to transport infrastructure and vehicles in an effort to manage vehicles, loads, and routes to improve safety and reduce vehicle wear, transportation times, and fuel consumption.

TSM 2.8 Encourage Bus Tracking Systems and Information Sharing. Bus tracking systems provide information to transit riders about the arrival and departure times of transit vehicles. This information

increases the convenience of using public transit by decrease passenger wait times and missed connections. This can include electronic signposts, leaflets, information call centers, and online information.

TSM 2.9 Provide Transit Information Easily Understandable and in Multiple Languages. Take transit options and information easy to understand to people in multiple languages. This can include signposts, leaflets, information call centers, and online information.

TSM 2.10 Implement Smart Bus Technology. Use GPS and electronic displays at bus stops to provide passengers real time updates on the bus transit system. Will also allow system operators to respond more quickly to system disturbances.

TSM 2.11 Transportation Operating System. Develop a transportation operating system for the region. This can include a master database with the ability to populate to vehicle navigation and computer and handheld applications.

TSM 4.18 Expand the Intelligent Traffic Corridor Program. Expand the Intelligent Traffic Corridor (ITC) program, the next generation, synchronized traffic flow system. Well timed signals along major thoroughfares improve traffic flow, which in turn result in lower emissions and reduced fuel consumption when compared to thoroughfares with poorly timed signals.

TDM 2.12 Changeable Message Signs. Changeable Message Signs that are installed on major arterials to reduce congestion and redirect movements and provide alternative routes to maintain traffic throughput.

TSM 2.7 Synchronize Traffic Signals Synchronize traffic signals to reduce vehicle idling at red lights and improve traffic flow.

**TSI 2.4 (TSM 2.13)**

**Freeway Service Patrol**

Create and fund a freeway service patrol program. Contract private tow truck operators to patrol highways and freeways during peak or near peak traffic hours.

**TSI 2.5 (TSM 2.15)**

**LOS Standards**

Create levels of service standards for all users. Emphasis should be placed on moving people.

**TSI 2.6 (TII 4.1, TII 4.2, TSM 2.3, TSM 2.4, TSM 2.14, TII 4.15)**

**Transit Priority (Signal Priority, HOV Lanes)**

TII 4.1 Transit Priority. Improve transit level of service (travel time, reliability, and frequency) for urban buses and light rail through prioritization measures, such as signal prioritization (where a transponder on the transit vehicle accelerates or extends the green cycle on traffic lights, allowing the vehicle to avoid many red lights), or lane-specific prioritization (preemptively turning a red light green in a lane occupied

by a bus or in an appropriate turn lane (thus allowing the bus to merge or turn several seconds in advance of other traffic).

TII 4.2 High-Occupancy Vehicles Lanes. Increase funding and identify appropriate locations for additional HOV lanes. HOV lanes can be added by converting existing lanes, employing reversible-lane strategies, and creating new road capacity designated for HOVs.

TSM 2.3 Increase Use of HOV, HOT, and Dedicated BRT lanes. HOV, HOT, and dedicated BRT lanes increase highway flow by transporting more people in fewer vehicles or charging people to drive on less congested lanes. Improved traffic flow decreases congestion and idling.

TSM 2.4 Increase Bus Traffic Signal Preemption. Implement system s that allows the normal operation of traffic lights to be preempted by light-rail and bus rapid transit systems to allow public transportation priority access through intersections to ensure they are able to remain on schedule and improving commute times.

TSM 2.14 Improved Transit to Public Events. Alleviate gridlock at public events (concerts, sporting events etc.) by providing additional public transit lines.

TII 4.15 Expand and Improve Management of HOT Lanes and Toll Road Systems. Implement and expand upon the existing HOT lane and toll road systems to address congested commuter corridors.

**TSI 2.7 (TII 4.6, TII 4.19, TII 4.20, TII 4.21, TII 4.22)**

**Pavement Management and Pavement Materials**

TII 4.6 Pavement Management and Pavement Materials. Install sustainable pavements that minimize the environmental impacts through the reduction of energy consumption, natural resources and associated emissions. This option also addressed pavement materials and pavement technologies.

TII 4.19 Reduce Pavement Widths. Reduce pavement widths to pre-World War II widths in an effort to mitigate hardscape heat gain.

TII 4.20 Include Parkway Strips. Reinstate the use of parkway strips so that trees may shade streets.

TII 4.21 Cool Roofs and Paving. The installation of roof and pavement surfaces with high solar reflection will lower temperatures and energy bills.

TII 4.22 Pervious Pavement Standards. Establish standards that provide for pervious pavement options. Pervious pavement utilizes a porous composition to accelerate rain's absorption back into the groundwater system.

**TSI 2.8 (TII 4.7, TII 4.8, TII 4.23, TII 4.24, TII 4.14, TII 4.5)**

**Road Design**

TII 4.7 Feeder and Distributor Systems- Orbital Routes. Support feeder and distributor systems. This can include orbital routes, where small buses can be used to serve residential areas and connect them to local destinations such as shopping areas, other neighborhoods, major bus routes, transit stations, schools and multi-generational centers.

TII 4.8 Smart Streets. Implement smart street guidelines and standards related to travel-lane width, bicycle lanes, on-street parking, medians, sidewalks, landscaping, lighting, crosswalks, pedestrian refuge islands, bulb-outs, and accessibility ramps.

TII. 4.23 Road Width. Reduce road widths in an effort to calm traffic and promote pedestrian-friendly development.

TII 4.24 Green Highway Design. The Green Highways Partnership (GHP) is a voluntary, public/private initiative that aims to encourage the building of green highways and to encourage environmental stewardship through integrated planning, regulatory flexibility, and market-based rewards.

TII 4.14 Mixed-Flow Lanes. Since mixed-flow lanes carry more traffic than any other component of our transportation system, mixed-flow capacity enhancements are necessary to address traffic bottlenecks and relieve congestion on heavily traveled corridors. This is especially true in areas outside of the urban core where transit service and the HOV network are not fully developed.

TII 4.5 Energy Efficient Lighting along Transportation Corridors. Install and fund energy efficient lighting along transportation corridors.

## TSI 2.9 (TII 4.10)

### Major CO2/VMT Reduction Strategies

Strategies focused on major corridors. These strategies would also take into account the kinds of feeder and distributor systems required for folks to get from home to jobs.

## TSI 2.10 (TII 4.17)

### High Speed Regional Transport System

High-Speed Regional Transport (HSRT) system has the potential for relieving both airport and freeway congestion in urbanized areas by providing an alternative to the automobile as well as making less-congested airports more accessible to air travelers, and providing alternative capacity for freight movement in the region. The HSRT system is a long-term vision connecting the region's ports, airports, and urban activity centers. The system can be constructed in multiple stages that can each be financially viable. The financial performance will be enhanced as the system is extended throughout the region and the volume of users increases.

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## TSI-3. ALTERNATIVE MODES OF TRANSPORTATION

### TSI 3.0 (TSM 3.2, TSM 3.1, TSM 3.5, TSM 3.3, TSM 3.6)

**Encourage Alternative Transportation**

TSM 3.2 Encourage Alternative Transportation. Encourage people to travel on alternative transportation by developing convenient public transit options and infrastructure that facilitates bicycle and pedestrian travel such as bike lanes, wide sidewalks, and denser neighborhoods.

TSM 3.1 Encourage Government Employees to Use Alternative Transportation. Government entities can encourage their employees to travel by alternative transportation by providing financial incentives, locating their offices in transit friendly areas, and supporting safe bicycle parking facilities. This also includes telecommuting for government employees.

TSM 3.5 Encourage Large Businesses to Develop Alternative Transportation Plans. Encourage large businesses to develop alternative transportation plans to help their employees commute to work. These plans can include working to transit agencies to integrate them into the transit service area, promoting car pooling, locating the business in more transit friendly areas, and creating safe bicycle storage facilities.

TSM 3.3 Tap Funding Sources for Alternative Transportation. Tap funding sources for alternative transportation from state and federal agencies.

TSM 3.6 Transit Funding. Prioritize funding in an effort to shift from private vehicle usage to public transit and other modes of transportation. Projects that support public transit/infrastructure and reduce private VMT would be emphasized.

### TSI 3.1 (TSM 3.4)

**Support School Bus Use**

Encourage school bus use and discourage students from traveling to school in private vehicles.

### TSI 3.2 (TSM, 3.10 TDM-2.1, TDM 2.2, TDM 2.3, TDM 2.4, TDM 2.5, , TDM 2.8, TDM 2.9, TDM 2.10, TDM 2.12, TDM 2.11, TDM 2.15, TDM 2.16, TDM 2.17, TDM 2.18, TDM 2.19, TDM 2.21, TDM 2.22, TII 5.28, TDM 4.6)

**Employer Based Programs: Telecommute, Live-Near-Your-Work, and Compressed Work Week**

TDM 2.1 Telecommute Bundle. Provide incentives to employers to provide such options as telecommuting, live near your work, and compressed work weeks to reduce automobile commutes.

TDM 2.2 Require Government Agencies to Use Telecommuting. Require the state and local government to offer telecommuting for appropriate employees, which would reduce work trips and provide a lead-by-example measure for public and private industries.

TDM 2.3 Telecommuting Centers, Support, and Incentives. Provide funding for regional telecommute centers and incentives for their use. These facilities vary in their details, but provide an office-type environment where employees can receive various levels of logistical support to telecommute.

TDM 2.4 Adopt Best Work Places for Commuters Policies. State and local governments would adopt for government employees and provide incentives to other organizations to adopt the policies and programs as set forth by EPA's Best Work Places Program to reduce VMT associated with daily work commutes. For more information, please visit: http://www.bestworkplaces.org.

TDM 2.5 Guaranteed Ride Home. Provide state funding to transit agencies and local jurisdictions to establish or expand guaranteed ride home programs, which encourage car pooling and transit use by providing a backup means to return home.

TSM 3.10 Telecommuting and Alternative Work Schedules. Promote telecommuting and alternative work schedules for employees.

TDM 2.8 Encourage Alternative Work Weeks. Encourage alternative workweek for government employees. This can include compressed work weeks: A compressed workweek allows the employee to work 40 hours in fewer than five days. The most widely used schedule is 10 hour days for four days a week. Another arrangement is called 5-4/9. This is a week of five nine-hour days followed by a week of four nine-hour days, and would give the employee a day off every other week.

TDM 2.9 Encourage Alternative Work Schedules. Encourage alternative work schedules that avoid peek and rush hour times and allow employees to work from home.

TDM 2.10 Commuter Choice Programs Bundle. Provide incentives for employers to offer Commuter Choice programs. These programs encourage employers to provide options, such as telecommuting, transit subsidies, pre-tax transit fare program, parking cash-out, and guaranteed ride home service, to reduce automobile commutes.

TDM 2.11 On-Site Day Care Centers. On-site daycare is occasionally provided by work places for employees. When available, this practice has the benefit of reducing the number of trips working parents have to make during the day. This reduces traffic volume and congestion.

TDM 2.12 Satellite Offices. Satellite offices allow for employees to work closer to their places of residence. Shorter commutes get motorists off the road faster, leading to decreased traffic volume and lower levels of vehicle emissions.

TDM 2.15 Telecommuting Bundle. Formalize and expand partnerships among public- and private-sector stakeholders to increase opportunities for wage and salary workers regionally to telecommute in lieu of daily commuting. Promote telecommuting to increase opportunities for wage and salary workers regionally to telecommute in lieu of daily commuting.

TDM 2.16 Develop Employee Shuttle Program. Create a shuttle system between offices, other agency offices frequently visited by employees and services not served by transit.

TDM 2.17 Dial-A-Ride. Offer a low-cost Dial-a-Ride service to seniors and disabled residents for transportation anywhere within a city, as well as to medical facilities and shopping destinations. Consider the expansion of existing service and other alternative forms of transportation for seniors.

TDM 2.18 Employer-based Trip Reduction. Provide employees with pre-tax financial incentives to encourage driving alternatives such as public transportation and vanpool.

TDM 2.19 Ride Home Programs. Provide a guaranteed ride home for employees using alternative forms of transportation in the case of personal emergency, overtime or other unplanned situations.

TDM 2.20 Reduced-cost Shuttle Service. Provide discount prices on shuttle service for employees using public transportation and ride-share programs.

TDM 2.21 Support Telecommuting. Allowing employees to work from home keeps them off the road, reducing traffic congestion and GHG emissions.

TDM 2.22 Low-and-No-Travel Employment Opportunities. Technological advances such as webinars and videoconferencing partially mitigate the need for business travel, reducing congestion and emissions.

TII 5.28 Employer-Based and Activity-Center-Provided Transit. Employer-based and activity-center-provided transit as an alternative to parking, underpinned by tax credits (i.e. Google Bus, Microsoft Connector etc.)

TDM 4.6 Employee Van-Pooling Programs. Expand the provision for vanpool services in the region by encouraging employers to offer incentives, and develop policies that encourage employers to provide such services

**TSI 3.3 (TDM 2.23)**

**Transit Corridor Planning**

Ensure transit corridors are planned to maximize linkage between residences and places of employment. Make transit investment appropriate to residential/employment density.

## TSI-4. TRANSIT SERVICE FACILITIATION

**TSI 4.0 (TSM 4.3)**

**Encourage Regional Transit Programs**

Encourage regional transit programs that connect neighboring cities and universities, schools, hospitals, business districts, entertainment areas, and residential neighborhoods.

**TSI 4.1 (TSM 4.4)**

**Facilitate Intermodal Travel**

Design transit systems that facilitate connecting by vehicle, bicycle, bus, and rail systems by having facilities that accommodate these various transportation modes. These types of intermodal systems can include bicycle racks on buses and park and ride parking lots at bus and rail stations.

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**TSI 4.2 (TSM 4.5)**

**Focus Transit Resources**

Focus on areas of high volume and demand, such as colleges and centers of employment.

**TSI 4.3 (TSM 4.6)**

**Free Transit Feasibility**

Study the feasibility of providing free transit in areas of fifteen housing units or more per acre, as well as redirecting service from areas of low residency.

**TSI 4.4 (TSM 4.8)**

**Off-peak Flag Stops**

Create flag stops in urban areas. Passengers traveling during off-peak hours can signal bus drivers to stop and pick them up.

**TSI 4.5 (TSM 4.9)**

**Real-time Transit Information**

Facilitate use of transit by providing high quality, real-time transit information at shelters and on websites accessible by cell phone, PDA, or other means.

**TSI 4.6 (TDM-5.1, TDM 5.11, TDM 5.13, TSM 4.7)**

**Pass System**

TDM-5.1 Issue Free or Discounted Bus Passes to Downtown Workers, Students, and Retirees. Provide funding to transit agencies for free or discounted bus passes for those who work in congested downtown areas, students, and retired persons. Transit pass programs allow discounted or unlimited rides within a given time period or number of rides.

TDM 5.11 Develop Regional Pass System. Develop smart passes that may be used on different local transit systems. Will reduce the number of fare systems and further integrate local transit systems.

TDM 5.13 Universal Transit Pass. Universal Transit Pass embedded in student IDs for community college/university system.

TSM 4.7 Universal Fare Media Card. Promote the use of a universal fare media card that can be used on any transit system.

**TSI 4.7 (TDM 5.2, TDM 5.4, TII 5.1)**

**Transit Pricing Incentives Bundle**

TDM 5.2 Transit Pricing Bundle. Provide a subsidy to transit agencies and universities to reduce their fares. This option would include various incentives that give discretionary travelers reasons to choose transit. This could include reduced fares (for populations [such as seniors] or for specific times [such as off-peak travel]) or offer discounts.

TDM 5.4 Reduced Transit Pricing. Implement free or reduce transit pricing for selected corridors or customers, such as students or senior citizens.

TII 5.1 Transit Marketing, Promotion, and Pricing Incentives. Fund enhanced promotion and marketing of transit to achieve greater use of public transit and a consequential reduction in automobile travel. A regional subsidy to encourage the adoption of transit passes and/or allow for a reduction in transit fares could be a part of this program.

**TSI 4.8 (TDM 5.3)**

**Expand Affordable Public Transportation Coverage**

Develop and implement a policy, which expands affordable public transportation coverage to within one-half kilometer (1,640 feet) of all regional residents by 2015.

**TSI 4.9 (TDM 5.5, TSM 4.1, TDM 5.6, TDM 5.7, TDM 5.8, TDM 5.12, TII 5.22, TII 5.25)**

**Public Transit Coordination Bundle**

TDM 5.5 Public Transit Coordination Bundle. Proactively promote the development of better public transit services through collaboration with regional and sub-regional transit planning groups as called for in the draft Mobility Element.

TSM 4.1 Expand Transit System Services. Increase transit system services areas, frequency of service, and quality of service to encourage increased customer use. Transit systems should focus on providing safe, confinement, and comfortable transportation to as large a percent of their service area population that they can serve.

TDM 5.6 Levels of Service. Discourage the extension of urban levels of service for new development beyond existing lines. Use zoning to ensure that new development occurs only if public services are adequate.

TDM 5.7 Extend Transit Service and Hours. Enlarge transit system coverage and extend hours of operation.

TDM 5.8 Coordinate Across Service Lines. Encourage integration of different transportation modes, including commuter rail, light rail, bus rapid transit, and local buses

TDM 5.12 Online Trip Planning. Allow riders to plan their trips online. Transit system websites may include maps, fare calculators, schedules, and other features. The Washington Metro Area Transit Authority (WMATA) employs such a feature: http://www.wmata.com/

TII 5.22 Public Transit- Hours of Service. Extend trolley/bus service from early morning hours to late evening hours, without mid-day breaks, throughout the year (this could be implemented Friday through Sunday in the near term, and throughout the week in the long term), where feasible.

TII 5.25 Improve Transit Service (Frequency, Convenience, and Quality). Improve existing transit service (e.g., expanding hours and coverage of bus service, higher-frequency bus routes, investments in rail transit) to generate greater use of public transit and a consequential reduction in automobile travel. This option could also include expansion of intercity bus service.

**TSI 4.10 (TDM 5.9)**

**Support "Transit Cars"**

Support the use of electric transit cars as a component of multimodal transportation systems.

**TSI 4.11 (TII 5.2, TII 5.8, TII 5.26, TSM 4.2, TII 5.3, TII 5.7)**

**Expand Transit Infrastructure (Rail, Bus, Bus Rapid Transit)**

TII 5.2 Expand Transit Infrastructure (Rail, Bus, Bus Rapid Transit). Increase funding for new public transportation infrastructure (e.g., rail lines, bus rapid transit routes). Greater use of public transit and reduction in automobile travel can be achieved by expanding public transit expenditure. This option also could include expansion of intercity bus service (e.g., by providing centrally located urban bus terminals or pickup areas). Infrastructure improvements, such as physical track upgrades or the conversion of mixed-traffic lanes to dedicated bus or light-rail lanes, can significantly aid level-of-service measures.

TII 5.8 Targeted Infrastructure Growth Incentives. Provide state and federal funding for targeted infrastructure growth.

TII 5.26 Transit Oriented Infrastructure Development in Infill Corridors. Corridors (along with freeways and highways) function as major transportation facilities and carry tremendous automobile and transit traffic. Therefore, planning more dense/intense development along these corridors, particularly residential and mixed-use development, will facilitate high quality transit service by providing more potential riders. In addition, by providing more residents near commercial and employment uses, the future redevelopment will facilitate residents being able to walk, bike or take transit (rather than drive) to meet their daily needs.

TSM 4.2 Improve Transit Stops and Stations. Make transit stops and stations more comfortable, safe, and interesting. Provide more benches, shelters, signage, and public art to make more convenient waiting areas.

TII 5.3 Commuter Transit. This option will improve the commuter transit infrastructure by connecting bus and light rail systems as well as providing parking management measures at transit stations. This option should also include commuter rail.

TII 5.7 Create Regional Multimodal Transportation Centers. Provide funding for multimodal terminals in centralized location(s) where various forms of passenger transportation connect to one another, such as rail, bus, and bikeways. Transfer timing/coordination improvements can be made through both improving and publicizing better connections between bus and/or rail services.

**TSI 4.12 (TII 5.6)**

**Light Rail Transit**

This option also could include expansion of an area's Light Rail infrastructure and availability. Light rail or light rail transit (LRT) is a form of urban rail public transportation that generally has a lower capacity and lower speed than heavy rail and metro systems, but higher capacity and higher speed than traditional street-running tram systems. The term is typically used to refer to rail systems with rapid transit-style features that usually use electric rail cars operating mostly in private rights-of-way separated from other traffic but sometimes, if necessary, mixed with other traffic in city streets.

**TSI 4.13 (TII 5.4, TII 5.5, TII 5.9, TII 5.10, TII 5.18, TII 5.19, TII 5.20,TII 5.21)**

**Bus Transit Measures**

TII 5.4 Intercity Bus Transit. This option also could include expansion of intercity bus service (e.g., by providing centrally located urban bus terminals or pickup areas). Infrastructure improvements, such as physical track upgrades or the conversion of mixed-traffic lanes to dedicated bus or light-rail lanes, can significantly aid level-of-service measures.

TII 5.5 Bus Rapid Transit. This option also could include expansion of a city's Bus Rapid Transit infrastructure and availability. Bus rapid transit (BRT) is a term applied to a variety of public transportation systems using buses to provide faster, more efficient service than an ordinary bus line. Often this is achieved by making improvements to existing infrastructure, vehicles and scheduling. The goal of these systems is to approach the service quality of rail transit while still enjoying the cost savings and flexibility of bus transit. BRT systems come in a variety of forms, such as dedicated busways with their own rights-of-way, bus services using HOV lanes, dedicated freeway lanes and limited-stop buses on pre-existing routes.

TII 5.9 Bus Fleet Measures. Implement bus fleet measures that reduce GHG emissions. Replacement of old bus fleet with new fleet vehicles such as CNG buses etc.

TII 5.10 Replacement of Bus Fleets. Replacement of bus fleets with new low GHG emission vehicles. Promote power system for bus fleets.

TII 5.18 Enhance Bus Stops. Enhance bus stops citywide by building more shelters and adding benches.

TII 5.19 Efficient, Convenient Bus Stops. Make sure that transit bus stops are conveniently placed and able to accommodate commuter volume.

TII 5.20 Bus Stop Signage & Access. Design well marked and accessible bus stops.

TII 5.21 Safe, Clean, Lighted Bus Stops. Integrate proper lighting at bus stops and maintain aesthetic and clean facilities.

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**TSI 4.14 (TII 5.11)**

**Regional Policies on Replacement of Transit Equipment**

Initiate and implement regional policies on replacement of transit equipment.

**TSI 4.15 (TII 5.12)**

**Station Cars**

Include station cars with car sharing. Establish a station car fleet to encourage ridesharing.

**TSI 4.16 (TII 5.13)**

**Feeder-Distributor Services**

Include feeder-distributor services at transit stations and nodes.

**TSI 4.17 (TII 5.14)**

**Converting Car Beaches to Mixed Use Development**

Tax and financial incentives to turn car beaches around rail stations in mixed use developed, where the stations would be served by green feeder lines and green distributor lines to move people from station to office parks, down-towns, etc.

**TSI 4.18 (TII 5.15)**

**Reaction and Use of Unused or Lightly Used Rail ROW**

Could yield major reductions in VMT in areas where transit service (BRT, LRT, commuter rail) is already present.

**TSI 4.19 (TII 5.16)**

**Support Extension of Rail Line**

Support the extension of rail lines to reduce congestion. An example is the current extension of the silver metro line going to and from Dulles Airport to Washington, D.C.

**TSI 4.20 (TII 5.17)**

**Village Trolley- Trial Basis**

Consider expanding service if ridership levels are high, but base future decision on sustainability principles.

**TSI 4.21 (TII 5.23, TII 5.24)**

**Public Transit- Route Coordination and Structure**

TII 5.23 Public Transit- Route Coordination and Structure. Provide bus or van service with a goal to promote coverage sufficient throughout town.

TII 5.24 Public Transit- Coordination of Routes. Connect city bus routes to adjacent routes, and coordinate bus services to ensure connections and to receive additional funding to improve bus access to visitors and employees, including potential transportation to and from train stations.

**TSI 4.22 (TII 5.27)**

**Provide Loading, Unloading & Waiting Areas**

Facilitate ride-share programs by providing adequate loading, unloading and waiting areas.

**TSI 4.23 (TII 5.29)**

**Heavy Rail Subway**

Heavy Rail Subway is an active transit mode in Los Angeles.

## TSI-5. GOODS MOVEMENT

**TSI 5.0 (TSM 5.1, TSM 5.2)**

**Encourage Old Vehicle and Equipment Retirement**

TSM 5.1 Encourage Old Vehicle and Equipment Retirement for General Public. Encourage old vehicle and equipment retirement by the public by offering incentives to retire these vehicles and equipment and replace them with more fuel efficient replacements.

TSM 5.2 Encourage Old Vehicle and Equipment Retirement for Construction Vehicles. Encourage old construction vehicles retirement by offering incentives to retire these vehicles and replace them with more fuel efficient replacements.

**TSI 5.1 (TSM 5.3 through TSM 5.9, TSM 5.22, TII 2.8)**

**Expand Use of Alternative Fuels/ Zero Emissions Vehicles**

TSM 5.3 Expand Use of Alternative Fuels. Encourage use of vehicles and engines that use alternative fuels such as CNG, LNG, biodiesel, electric vehicles, plug in hybrids, and regular hybrids.

TSM 5.4 Develop Alternative Fuel Stations. Help develop alternative fuel stations so it is more convenient to use vehicles that use such fuels.

TSM 5.5 Convert Street Sweeping and Refuse Vehicles to Alternative Fuels. Convert street sweeping and refuse vehicles from diesel to alternative fuels to liquefied natural gas or other alternative fuels.

TSM 5.6 Replace Local Government Fleets with Alternative Fuel Vehicles. Require 85 percent of the local government fleet to use alternative fuels.

TSM 5.7 Convert Transit Buses to Alternative Fuels. Require local transit buses to use alternative fuels.

TSM 5.8 Replace Gasoline Powered Mowers with Electric Mowers. Require all gasoline powered mowers be phased out with electric mowers or ban their sale. Offer incentives for people to purchase electric mowers such as rebates and other subsidies.

TSM 5.9 Require Zero Emission Forklifts. Require zero emission forklifts.

TSM 5.22 Zero Emission Trucks. Initiate a mode shift in the commercial truck fleet by replacing diesel trucks with electric trucks. Electric LGVs will have a range of a hundred miles or more and eliminate carbon dioxide, nitrous oxide and PM10 emissions.

TII 2.8 Clean Fuel for Freight. Support the use of clean fuel for freight and goods movement.

**TSI 5.2 (TSM 5.10, TSM 5.11)**

**Develop Anti-Idling Regulations for Heavy Duty and Construction Vehicles**

TSM 5.10 Develop Anti-Idling Regulations for Heavy Duty Vehicles. Adopt and enforce anti-idling regulation for heavy duty vehicles. Heavy Duty Vehicles should be required to stop idling their engines after a short period of time if the cargo or passengers they carry do not need climate control or other vital electricity facilitated activity, especially if external vehicle electrification options are available.

TSM 5.11 Develop Anti-Idling Regulations for Construction Equipment . Adopt and enforce anti-idling regulation for construction equipment. Both vehicle and non-vehicle construction equipment should be required to stop idling their engines after a short period when they are not in use. This should only be done if doing so does not increase safety risks of operating or hosting the equipment. Additionally, external electrification sources, other than the equipment motor, should be encouraged.

**TSI 5.3 (TSM 5.12, TSM 5.21)**

**Encourage Truck Stop Electrification**

TSM 5.12 Encourage Truck Stop Electrification. Provide regulatory and financial support for the development of truck stop electrification facilities.

TSM 5.21 Freight Rail Electrification. Shift to electric powered freight lines as a major component of emission reduction strategy.

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**TSI 5.4 (TSM 5.13)**

**Promote Truck Refrigeration Units**

Provide regulatory and financial support hybrid electric-powered truck refrigeration systems and electrical docks at loading and unloading stations for trucks that move goods that need climate control.

**TSI 5.5 (TSM 5.14)**

**Reduce Locomotive Fuel Use**

Provide regulatory and financial support to locomotives that use alternate fuels, efficient engines, and other improved technology to improve fuel efficiency.

**TSI 5.6 (TSM 5.15)**

**Encourage Cold Ironing at Ports**

Provide regulatory and financial support Cold Ironing (or AMP - Alternative Maritime Power). Cold Ironing is the process of providing shore-side electrical power to a ship at berth while its main and auxiliary engines are turned off. Cold ironing permits emergency equipment, refrigeration, cooling, heating, lighting, and other equipment to receive continuous electrical power while the ship loads or unloads its cargo.

**TSI 5.7 (TSM 5.16)**

**Facilitate Freight Logistics Improvement**

Promote freight logistics systems and processes that select the most safe and fuel efficient methods to arrange goods storage, transport, and handling.

**TSI 5.8 (TSM 5.18, TSM 5.17)**

**Facilitate Pre-Clearance at Scale Houses**

TSM 5.18 Facilitate Pre-Clearance at Scale Houses. Pre-clearance at scale houses can reduce or eliminate the amount of time trucks need to spend in lines waiting to be scaled while on the road. This reduces idling and truck congestion.

TSM 5.17 Allow Increased Size and Weight of Trucks. Size and Weight restrictions on trucks sometimes mean that an amount of goods that could have been transported by one large truck ends up being transported by two trucks. Road quality and other road safety conditions should be considered simultaneously with this regulation.

**TSI 5.9 (TSM 5.19)**

**Promote Freight Villages / Consolidation Centers**

Encourage freight villages. A freight village is a defined area within which all activities relating to transport, logistics and the distribution of goods, are carried out by various operators. Freight villages include warehouses, break-bulk centers, storage areas, offices, and truck parks. The close proximity of a wide range of freight services and suppliers may reduces truck vehicle miles traveled.

**TSI 5.10 (TSM 5.20)**

**Support Procurement of an Efficient Heavy Duty Vehicle Fleet**

Encourage the procurement of efficient heavy duty vehicle fleets that use more fuel efficient engines, more aerodynamic designs, and other fuel saving technologies.

**TSI 5.11 (TSM 5.23)**

**Dedicated Truck Corridors**

Supplement mixed-use corridors with dedicated truck corridors. Levels of truck diversion may vary.

**TSI 5.12 (TSM 5.24, TSM 5.25)**

**Plug-in at Aircraft Gates for Airplanes and GSE**

TSM 5.24 Plug-in at Aircraft Gates for Airplanes. Create plug-in stations at aircraft gates for airplanes.

TSM 5.25 Plug-in at Aircraft Gates for Ground Service Equipment.Create plug-in stations at aircraft gates for ground service equipment.

**TSI 5.13 (TII- 2.1, TII 2.3, TII 2.4, TII 2.6)**

**Intermodal Freight Initiatives**

TII 2.1 Intermodal Freight Initiatives. This option focuses on strategies to encourage more use of rail freight, for example through improvements to railroad infrastructure and rail yards. In many cases, carrying freight by rail rather than trucks can reduce emissions and fuel consumption, while also reducing congestion on major roadways.

TII 2.3 Increase Rail Capacity and Address Rail Freight System Bottlenecks. Increasing rail capacity may allow some freight to shift from trucks to rail. In addition, rail infrastructure improvements could enable more use of the more fuel-efficient double-stack rail cars.

TII 2.4 Shift Freight Movements from Truck to Rail. Economic assistance and regulatory streamlining could improve intermodal rail yards and relieve rail freight bottlenecks.

TII 2.6 Rail Grade Separations. Implement rail grade separations. Grade separation is the process of aligning a junction of two or more transport axes at different heights (grades) so that they will not disrupt the traffic flow on other transit routes when they cross each other. The composition of such transport axes does not have to be uniform; it can consist of a mixture of roads, footpaths, railways, canals, or airport runways. Bridges, tunnels, or a combination of both can be built at a junction to achieve the needed grade separation.

**TSI 5.14 (TII 2.2)**

**Feeder Barge Container Services**

Marine container shipping is often assumed to be too slow for domestic freight, but for example Europe has seen high growth rates in waterborne (especially river) container freight over relatively short distances. This option can also include other waterborne transportation modes such as private boating and ferries.

**TSI 5.15 (TII 2.5)**

**Designated Truck Lanes**

This proposal has the potential to relieve many of the negative truck impacts such as recurrent delay, pavement deterioration, safety, emissions, and design deficiencies. Dedicated truck lanes would also increase reliability in the freeway system. More recent effort has focused on adding dedicated truck lanes for clean technology vehicles along truck-intensive corridors.

**TSI 5.16 (TII 2.7)**

**Airborne Transportation Modes**

Implement policies that promote the reduction of GHG emissions from airborne transportation modes.

**TSI 5.17 (TII 2.9)**

**Trade Corridor and Goods Movement Policy**

Implement a policy in support of trade corridors and goods movement. Assess how goods move in concert with other transit options.

**TSI 5.18 (TII 2.10)**

**Port GHG Reduction Plans**

Implement GHG reduction plans at ports.

**TSI 5.19 (TII 2.11)**

**Waste to Rail Infrastructure**

Invest in programs that solve how to handle waste once landfills close.

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## TSI-6. PRICING INCENTIVES AND DISINCENTIVES

### TSI 6.0 (TSM 6.1, TDM 6.4)

### Adopt Congestion Pricing

TSM 6.1 Adopt Congestion Pricing. Encourage congestion pricing. Congestion pricing is a system of surcharging users of a transport network in periods of peak demand to reduce traffic congestion.

TDM 6.4 Congestion Pricing. Implement and expand upon congestion pricing strategies and policies for the existing HOT lane and toll road systems to address congested commuter corridors.

### TSI 6.1 (TSM 6.2, TSM 6.3, TSM 6.4, TSM 6.9)

### Tolls

TSM 6.2 Adopt Emission Based Tolls. Encourage emission-based tolls that charge more to drivers who drive higher green house gas emitting vehicles.

TSM 6.3 Implement Urban and Intercity Road Tolls. Encourage urban and intercity road tolls that charge more to drivers who drive on urban and intercity roads.

TSM 6.4 Tolls Revenue to Fund Alternative Fuel Vehicles. Revenue from congestion pricing, emission based tolls, urban tolls, and intercity road tolls to fund programs that encourage alternative fuel vehicles.

TSM 6.9 Convert Existing Roads to Toll Roads. Convert existing roads to toll roads. This policy may simultaneously reduce congestion and generate toll revenue.

### TSI 6.2 (TSM 6.5)

### Implement Parking Pricing, Excise Tax, and Supply Restrictions

Use parking pricing, excise tax, and supply restrictions to decrease incentives to travel in low occupancy private vehicles.

### TSI 6.3 (TSM 6.6, TDM 6.3)

### Increase the Fuel Tax

TSM 6.6 Increase the Fuel Sales Tax. Increase the fuels sales tax to decrease congestion and increase transportation system funding.

TDM 6.3 Increased Fuel Tax (With Targeted Use of Revenue towards Travel Alternatives). Increase the state tax on conventional fuels. Revenues can be dedicated to fund transit and other transportation alternatives within a corridor or region.

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**TSI 6.4 (TSM 6.7, TDM 2.6)**

**Mileage Based Insurance**

TSM 6.7 Mileage Based Insurance. Mileage based insurance to decrease congestion.

TDM 2.6 "Pay-As-You-Drive" Auto Insurance. The state would pass necessary legislation to allow, encourage, and support the provision of pay-as-you-drive auto insurance, possibly including state support for additional pilot programs. This measure converts vehicle insurance from a relatively fixed annual amount (which varies little by mileage), to a mostly mileage-based rate.

**TSI 6.5 (TSM 6.8)**

**Increase Gas Price to Include Carbon and Pollution Costs**

Increase gas price to include carbon and pollution costs. This would decrease congestion and improve air quality.

**TSI 6.6 (TSM 6.10, TSM 6.19, TDM 6.2)**

**Implement VMT Tax**

TSM 6.10 Implement VMT Tax. Implementing VMT tax would reduce congestions and charge people for how much they actually drive. This policy has an advantage over the fuel tax in that it is not affected by improving vehicle fuel efficiency.

TSM 6.19 VMT Based Emission Fees. Link VMT and emissions rates in an effort to reduce the number of high-emitting vehicles and to promote vehicle maintenance.

TDM 6.2 Vehicle Miles Traveled Charge. The state would charge a tax or fee reflective of miles traveled by passenger vehicles. It would be collected through odometer audits at annual vehicle inspection visits or through global positioning system or similar systems as they become increasingly commonplace.

**TSM 6.7 (TSM 6.14)**

**Transportation Impact Fees**

Put impact fees collected from new and proposed development back into the transit system.

**TSI 6.8 (TSM 6.17)**

**Transit Discounts to Events**

Provide discounts for public transit rides to major events.

**TSI 6.9 (TDM-6.1)**

**Transportation Demand Ordinance**

Amend the trip reduction and Transportation Demand Management (TDM) requirements in the Zoning Ordinance to expand the area in which the requirements apply. Further, promote the use of the trip reduction and TDM measures as an optional strategy to mitigate traffic impacts caused by new development in other parts of the city.

**TSI 6.10 (TDM 6.5)**

**Study/Develop Pricing Policies and Structures to Discourage Car Travel**

Study the cost/benefit of implementing new policies to make the cost of driving reflect the full costs to society. Examples might include:

- Parking costs and road pricing systems that provide a disincentive for driving and in turn provide revenue for building infrastructure.
- Assessing a fee for employment uses that provide an excess of parking spaces, or that opt out of the employee transit pass program. Use revenue from this fee to fund transit.

## TSI-7. PARKING MEASURES

**TSI 7.0 (TDM- 3.1, TDM 3.2, TDM 3.9, TSM 6.12, TSM 6.13, TSM 6.15, TSM 6.16, TSM 6.18, TII 3.8)**

**Parking Pricing**

TDM 3.1 Parking Cash-Out. Parking cash-out is a federal tax programs that allows employees to receive a cash payment as an alternative to receiving employer-paid parking.

TDM 3.2 Free Downtown Parking for Car Poolers. Provide free downtown parking for car poolers at municipal lots or through vouchers issued to car poolers or a subsidy to private parking operators.

TDM 3.9 Parking Pricing Bundle. Set parking prices to equal or exceed transit fares. For example, set daily rates at least equal to two single transit fares, and monthly rates at least equal to a monthly transit pass. Avoid excessive parking supply. Use Parking Management to encourage more efficient use of existing parking facilities and address any spillover problems that result from pricing. Provide free or discounted parking to Rideshare vehicles.

TSM 6.12 Performance Pricing for Parking. Raise street parking prices in an effort to ensure frequent turnover and keep fifteen percent of spots open at a time.

TSM 6.13 Unbundle Parking from Leases. Unbundling parking from leases will allow tenants to pay separately only for the number of spots they need, reducing the need for parking infrastructure in residential areas.

TSM 6.15 Eliminate/Reduce Parking Minimums. Reduce or eliminate minimums for off-street parking. May be coupled with mandatory parking maximums.

TSM 6.16 Increase Parking Rates. Increase parking rates at meters and public parking lots.

TSM 6.18 Parking Cash-out Program. Provide employees with a cash allowance in lieu of subsidizing parking. This program reduces total commute miles and encourages alternative modes of transportation.

TII 3.8 Market Rate Pricing. Price parking at market rates and eliminate residential/employer discounts.

**TSI 7.1 (TDM 3.3, TDM 3.5, TDM 3.15, TII 3.5 )**

**Reserve Parking Spaces for High-Occupancy Vehicles and Car-Share Programs**

TDM 3.3 Reserve Parking Spaces for High-Occupancy Vehicles and Car-Share Programs. Set standards for local jurisdictions to reserve parking spaces for HOVs and car-share programs. This program provides incentives for people who car pool or use car-sharing programs.

TDM 3.5 Preferential Parking for Low GHG Vehicles. A preference option to encourage buying and using low-GHG vehicles might be lower cost or more convenient parking at businesses and shopping centers.

TDM 3.15 Priority Parking for Zip-Cars. Encourage priority parking for zip-car/car-sharing.

TII 3.5 Designated Ride-share Parking. Reserve a certain number or percentage of parking spaces at transit centers and elsewhere for ride-share vehicles.

**TSI 7.2 (TDM 3.4, TII 3.2)**

**Parking Regulation in Suburban Areas**

TDM 3.4 Parking Regulation in Suburban Areas. Enforce parking regulation and management of parking in suburban areas.

TII 3.2 Improve Parking Regulations.Improve and implement parking regulations such as vehicle restrictions and pricing.

**TSI 7.3 (TDM 3.6, TDM 3.10)**

**Reduction in Required Parking**

TDM 3.6 Reduction in Required Parking. Allow for reduction in required parking for new construction that is clearly integrated with cleaner transportation options.

TDM 3.10 Reduced and Shared Parking. Promote reduced and shared parking as a component of mixed use development. Establish parking maximums if sites are located in close proximity (0.25 miles or less) to public transit.

**TSI 7.4 (TDM 3.7)**

**Require Village Employees to Park in Perimeter Lots**

Require Village employees to park in perimeter lots. Parking lots will be designated for a specific permit. All vehicles parking on in these lots must be registered and display the appropriate hang tag in order to park in a specific lot.

**TSI 7.5 (TDM 3.11)**

**Limit Parking Times**

Limit public parking times as a method of encouraging alternative transportation.

**TSI 7.6 (TDM 3.12)**

**Event Parking Policies**

Available policies include providing monitored bicycle parking at special events, encouraging peripheral parking by raising the costs of on-site parking, and offering parking discounts for carpoolers.

**TSI 7.7 (TDM 3.13)**

**Parking Supply and Demand**

Analyze parking supply and demand to see if some parking lots could be better used for development, which could help fund structured parking.

**TSI 7.8 (TDM 3.14)**

**Parking Place-Making**

Locate parking so as to maximize place-making.

**TSI 7.9 (TDM 3.16)**

**"Park Once" Program**

Encourage "park once" programs especially for shopping malls.

**TSI 7.10 (TII 3.1, TDM 3.8)**

**Park-and-Ride Lots**

TII 3.1 Park and Ride Lots.Provide additional funding for park-and-ride lots. This strategy will expand the construction of well-lit, police-patrolled parking locations for car poolers and others to interface with buses, light and heavy rail, and commuter trains in the region.

TDM 3.8 Park-and-Ride Lots. Provide additional state funding for park-and-ride lots. This strategy will expand the construction of well-lit, police-patrolled parking locations for car poolers and others to interface with buses, light and heavy rail, and commuter trains in the region.

**TSI 7.11 (TII 3.3)**

**Flexible Parking for Streetscape**

Consider flexibility in local parking requirements by examining factors such as access to transit, local car ownership rates, and existing efforts to reduce demand for parking.

**TSI 7.12 (TII 3.10)**

**Parking for Alternative Types of Conveyance**

Invest in parking infrastructure for alternative types of conveyance such as Segways etc.

## TSI-8. RIDESHARING

**TSI 8.0 (TDM- 4.1, TDM 4.2, TDM 4.3, TDM 4.4, TDM 4.5, TDM 4.8, TDM 4.10, TDM 4.12, TDM 4.17, TDM 4.19, TII 4.3, TII 2.24)**

**Car-Sharing Programs**

TDM 4.1 Car-Sharing Programs. Provide funding or subsidies, and reserved parking locations, for the introduction/expansion of public or private car-sharing operators. This measure represents the introduction of hourly rental schemes, with vehicles available at numerous locations throughout the metropolitan area.

TDM 4.2 Attract Car-Sharing Companies. Attract car-sharing companies especially in parking impacted areas to reduce the need for individual vehicles.

TDM 4.5 Expand and Improve Rideshare Programs. Expand and improve rideshare program including parking incentive, park/ride, ride home.

TDM 4.8 Ride-share Programs. Initiate or improve ride-share programs. Includes parking incentives, park/ride, and ride home services.

TDM 4.10 Support Car-Sharing Services. Publicize car-sharing services, encourage the use of fuel efficient cars, and construct reserved parking spaces.

TDM 4.12 Support Ride-share Organizations. Support ride-share organizations. For employers this includes measures that introduce programs, outline the incentives and encourage participation. This may include newsletters, flyers, events, and gift certificates.

TDM 4.17 Coordinate and Encourage Carpooling. Provide websites and other services to coordinate and encourage carpooling.

TDM 4.19 Casual Car Pooling. Encourage casual car pooling (slugging).

TII 4.3 Van Pooling and Car Pooling Incentives. Provide financial incentives or preferential treatment for van pools and car pools, and fund supporting ride-matching programs.

TII 2.24 Car-Sharing. Encourage Car-Sharing.

TDM 4.3 Encourage the Use of Van Services. Consider arrangements with private van fleets or other private services to facilitate transportation to and from train stations if transportation is not available or practical.

TDM 4.4 Encourage Car-Pool Programs. Encourage voluntary programs for residents within the region and for workers living outside the region to share rides and reduce the number of vehicle-trips. Local

jurisdictions could both advertise the financial and GHG emissions advantages of car-pooling and set up a program to make it easier for potential ride-sharers to find each other.

**TSI 8.1 (TDM 4.9, TDM 4.11)**

**Ride Coordination Support**

TDM 4.9 Ride Coordination Support. Increase number of riders and destinations through initiatives such as websites and cell phone location software.

TDM 4.11 Ride-share Coordinator. Provide necessary funding and training for ride-share coordinators. Coordinators will be charged with conducting the survey process, implementing and marketing ride-share programs, and tracking results.

**TSI 8.2 (TDM 4.13)**

**Support Ride-share Legislation**

Volunteer time and/or funds to aid in the passage of ride-share legislation.

**TSI 8.3 (TDM 4.14)**

**Support Transportation Management Associations**

Transportation management associations (TMAs) are non-profit organizations, typically public-private partnerships, which provide transportation services. Support from local businesses and governments will encourage improvements in areas such as transportation, parking, and smart growth.

**TSI 8.4 (TDM 4.16)**

**Jitney Ridesharing Program**

Implement the Jitney Ridesharing Systems, which reduces commute time and is cost effective.

## TSI-9. ALTERNATIVE VEHICLE AND INFRASTRUCTURE BASED INCENTIVES

**TSI -9.0 (TII 4.9, TII 4.11, TII 3.6, TII 3.7, TDM 4.18)**

**ALTERNATIVE VEHICLE AND INFRASTRUCTURE BASED INCENTIVES**

TII 4.9 Electrical Charging Stations.Incentives for accommodating electrical charging stations at strategic locations; this encourages the use of electric vehicles in the future making it more accessible for drivers to recharge the car battery.

TII 4.11 Electric Vehicle Infrastructure. Increase use of neighborhood electric vehicles by providing infrastructure such as parking spaces and signs.

TII 3.6 Electric & Alternative Infrastructure. Provide facilities for electric and alternative fuel vehicles such as guaranteed parking in new development and access to recharging/refueling stations. This can include solar panels at open parking lots or garage facilities.

TII 3.7 Charging Access in New Development. Increase parking fees for traditional fossil fuel vehicles in new development.

TDM 4.18 Invest in Fuel Efficient Vehicles for Ridesharing. Invest in fuel efficient vehicles for ridesharing.

## TSI-10. INFORMATION, EDUCATION AND OUTREACH

### TSI 10.0 (TSM 1.7, TDM 1.2, TDM 1.3, TDM 2.14)

### Walk and Bike Safety Education

TSM 1.7 Safety Education Provide walk and bike safety education for school-aged children.

TDM 1.2 Educational Outreach to Promote Safety among Cyclists. Encourage the community, through education, to create a culture where cyclists and motorists interact safely by partnering with community groups, local governments and Transit to link buses to bicycles, promote bike events and awareness like Bike-To-Work day and Bicycle Rodeos.

TDM 1.3 Promote Health through Bicycle Programs. Implement fun, healthy bicycle programs to establish educational bike programs, partnering with health groups to establish exercise bike and walking and establish recreational bike programs.

TDM 2.14 Promote Safety Program. Promote Safety programs to increase awareness of the public about safe commuting. A program can include manuals and information on improving Driver Decisions about Rights of Way and Turning, making the streets generally safer to drive in and safer for pedestrians and cyclists.

### TSI 10.1 (TSM 3.7)

### Promote Maintenance and Driver Training

Provide online and offline training programs for drivers to learn how to maintain their vehicles and drive in ways that maximize vehicle fuel efficiency and safety.

### TSI 10.2 (TSM 3.8)

### Distribute Educational Information

Provide online and offline driver and vehicle safety and fuel efficiency information online and through brochures. The information should appeal to a board audience and be simple to follow.

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**TSI 10.3 (TSM 3.9)**

**Help Establish Baseline to Green Transportation Standards**

Collect data on transportation system efficiency (throughput, speed, safety), disruptions (weather and accidents), and emergency service trips to monitor the transportation system and compare it to other regional systems.

**TSI 10.4 (TDM 2.13)**

**Encourage the Use of Vehicle Navigation Systems**

Vehicle Navigation Systems use GPS tracking to provide directions for drivers. Most current systems combine a visual display with voice prompts. Motorists can use real time information to reach destinations, avoid traffic, and view local business establishments. Some systems also utilize the GPS as a vehicle locator when a car is stolen or missing. Ongoing efforts are attempting to link vehicle navigation systems with the goal of creating a cooperative network. Under this proposed system, navigation systems would send trip data (e.g., current location, final destination) to a central database. This database would then predict future traffic patterns and send this information back to each navigation system. Such a network could reduce average driving time and overall traffic volume.

**TSI 10.5 (TSM 7.1, TSM 7.2)**

**Baseline data Collection Measures**

TSM 7.1 Monitor Travel Time Delays. Introduce methods to monitor travel time delays as part of an intelligent transportation system (ITS).

TSM 7.2 Performance Measures for Arterial Streets. Introduce measures that focus on mobility monitoring and surface street congestion analysis as part of an ITS.

**TSI 10.6 (TSM 7.2)**

**Performance Measures for Arterial Streets**

Introduce measures that focus on mobility monitoring and surface street congestion analysis as part of an ITS.

**TSI 10.7 (TSM 7.3)**

**Heavy Duty-Vehicles**

Street sweeping and waste are not always under ownership; this needs to be expanded to include contractors.